(UK/0126/0038) MI-006

United Kingdom of Great Britain and Northern Ireland

Certificate of EC type-examination of a measuring instrument
Number: UK/0126/0038

issued by the Secretary of State for Innovation, Universities & Skills
Notified Body Number 0126

In accordance with the requirements of the Measuring Instruments (Automatic Catchweighers) Regulations 2006 (SI 2006/1257) and the Measuring Instruments (Non-Prescribed Instruments) Regulations 2006 which implement, in the United Kingdom, Council Directive 2004/22/EC, this certificate of EC type-examination has been issued to:

Ishida Co. Ltd
44 Sanno-cho
Shogoin
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Kyoto-city
606-8392
Japan

in respect of an automatic catchweighing instrument designated the "WPL-5000 Series" and having the following characteristics:

Maximum capacity	Max	≤	4 kg	
Minimum capacity	Min	≥	0.02 kg	for Class Y(a)
	Min	≥	0.125 kg	for Class XIII(1)
Scale interval	e	≥	1 g	
Accuracy classes	Y(a) and XIII(1)			

The necessary data (principal characteristics, alterations, securing, functioning etc) for identification purposes and conditions (when applicable) are set out in the descriptive annex to this certificate.

Signatory: P R Dixon
for Chief Executive
National Weights & Measures Laboratory
Department for Innovation, University & Skills
Stanton Avenue
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United Kingdom

Issue Date: 19 September 2008
Valid Until: 18 September 2018
Reference No: T1108/0046

Descriptive Annex

1 INTRODUCTION

This pattern of an automatic catchweigher, designated the "WPL-5000 Series" (Figure 1), operates as an automatic weight or weight/price labeller (Category Y). It comprises a self-indicating and price computing weighing machine with associated thermal label printer and mechanical handling facilities. The instrument may also operate as an automatic checkweigher (Category X).

The instrument is designed to weigh packs dynamically and when operating as a catchweigher provides indications of:

- price per unit weight from £0.01 to £999.99 per kg by £0.01 intervals
- price-to-pay from £0.01 to £999.99 by £0.01 intervals (rounded to the nearest 1p, with 0.5p rounded up)

Pricing, pack and labelling information is stored in files called PLUs selectable for the commodity or labels being processed. Labels are printed for the above transaction data, with either pre-printed or machine printed units of measurement and such commodity data as required, and are applied to the packs automatically. A bar code may also be printed.

2 FUNCTIONAL DESCRIPTION

Figure 2 shows a schematic representation of the instrument.

2.1 Mechanical

2.1.1 The framework is a fabricated floor standing stainless steel frame on stainless steel feet. A level-indicator is provided on the front of the weigh conveyor unit. On the frame are mounted the conveyor sections (infeed, weigh and outfeed), with each conveyor driven by a DC motor. Infeed guides may be fitted which are remotely adjustable. An operation stop button is located on the operation unit, with the main power isolator (which also serves as an emergency switch) provided on the right side of operation unit. A transparent plastic cover is located over the weigh conveyor which shall be in place during normal automatic weighing operation.

2.1.2 Three photocells are used for pack detection. They are located either vertically or laterally at 90° to the conveyors. The first is located above the infeed conveyor, with the second located above and between the infeed conveyor and the weigh conveyor. The third is located above the outfeed conveyor, prior to the printer. A photocell is provided on each of the optional label printer unit(s). The first photocell is used to detect and stop the packs. The second photocell detects whether a pack stopped on the infeed has overrun onto the weigh conveyor, it provides a signal to initiate the weighing procedure, and it measures the pack length. The third photocell is used to provide information for label application position.

2.1.3 Packs of product are weighed as they pass over the weigh conveyor which runs continuously. The speed of the conveyor is set by the system computers and determined by pack size and label length. The weighing system is constructed around the Ishida TLC-30LT load cell, mounted in an enclosure under the weigh conveyor. It supports the conveyor and associated rollers, belts and fixings.

2.1.4 The thermal label printer head is located above the outfeed conveyor and has adjustable height, lateral and rotational position. It contains the hardware necessary to print, feed and apply self-adhesive labels from a reel. The label applicator contains a vacuum device which is used to hold the label in place on the applicator, which places the label onto the pack as it reaches the required position. The label application is powered by pneumatics and a pressure regulator is mounted under the outfeed conveyor. Figure 3 shows the Upper Printer Unit and Figure 4 shows the Under Printer Unit.

2.2 Electrical

2.2.1 The Scale Control Unit is located behind the weigh conveyor, with the Main Control Unit (MCU) located behind the outfeed conveyor. They are both protected from potential shock hazard by an enclosure which cannot be opened without a tool.

2.2.2 The Display unit (Figure 5) consists of a colour LCD panel, a plastic enclosure and a touch screen membrane overlay. The Display unit is secured on a hinge to the operation unit and can be adjusted to alter the viewing angle. A contrast adjustment is provided to obtain optimum viewing.

2.2.3 The Operation unit (Figure 5) is supported by a stainless steel pipe stand and comprises a control panel, consisting of the mains electrical isolator, conveyor start, pause and operation stop buttons, infeed guide adjustment and printer adjustment keys. In addition, the following operation keys are provided on the Operation unit:

- 10 numeric keys (0 to 9)
- 'CE' (clear entry)
- 'PT' (preset tare)
- 'Zero'(Semi-automatic zero-setting)
- 'PLU' (price look-up)
- 'Feed'(of a label)
- 'Print'(of a label)
- 'Start' and 'Stop' (of automatic weighing operation)

2.2.4 All the printed circuit boards (except those not designed by the manufacturer) are configured as follows:

Designation	Name	Function	Configuration	Parts List	Schematics
P-910	Main	LCD/Keyboard On-line control File administration	101-7730-02	101-7731-06	N/A
P-962	I/O	I/O data processing	101-7577-09	101-7578-02	N/A
P-920	Drive	Conveyor operation	101-7684-04	101-7680-00	N/A
P-963	Printer	Operation of the label printer and the label applicator	101-7685-08	101-7683-01	N/A

P-5557	MCU	Analogue to digital conversion (ADC type CS5532-AS) and operation of the weigher control	101-5967-01	101-8061-08	101-5938-02 101-5939-06 101-5940-01 101-5941-04 101-5942-08 101-5943-01 101-5944-05 101-5945-09 101-5946-02 101-5947-06 101-5948-00 101-5949-03 101-5950-08 101-5951-01 101-5952-05

2.3 Devices

The instrument is provided with the following devices:

- Initial zero-setting device (≤ 20 % of Max)
- Semi-automatic zero-setting device
- Automatic zero-setting at start of automatic operation
- Automatic zero-setting as part of the weighing cycle
- Zero-tracking device
- Preset tare device (subtractive)
- Zero indication
- Belt speed setting accessible to user
- Device to determine when stability criteria fulfilled
- Static calibration not accessible to user
- Price computing

3 TECHNICAL DATA

3.1 The WPL-5000 has the following technical characteristics:

Maximum capacity (Max) [kg]	2			4		
Minimum capacity (Min) – Y(a) [kg]	0.02			0.04		
Minimum capacity (Min) – XIII(1) [kg]	0.125			0.25		
Scale interval (e) [kg]	0.001			0.002		
Preset Tare (PT) [kg]	-1.999			-3.998		
Load cell model	Ishida TLC-30LT (E_{max} = 30 kg)					
Accuracy Class	XIII(1)	Y(a)		XIII(1)	Y(a)	
Maximum belt speed [m/min]	70	65	70	70	65	70
Climatic environment [°C]	-5 to +40	-5 to +40	0 to +40	-5 to +40	-5 to +40	0 to +40
	Non-condensing (closed)					
Electromagnetic environments	E1 and E2					
Rated power supply	230 V a.c. 50/60 Hz					
Rated pneumatic supply pressure [MPa]	0.45 to 0.55					

3.2 Documentation and drawings

Operating manual	WPL-5000 User's Manual (No. 0000A)
Service manual	WPL-5000 Service Manual (May 2004)
Dimensional drawing	101-7527-02 rev 0
Exterior view	101-7523-09 rev 0
Parts list	05-26209-019 (issued 21/10/06)
PCBs	See section 2.2.4

3.3 Software

3.3.1 The software is divided similarly to the electrical hardware in that the conveyor control, conveyor control, operator interface and general calculation execute in the main electrical unit. Metrology and weight calculation execute on the MCU board in the scale control unit. The label printing, feeding and application software is located in the label printer.

3.3.2 The Metrology software version number is 'B0452B' which is displayed in the Initial Message on the Display Unit when power is turned on or when PRODUCTION is selected on the main menu (which is displayed when pressing MENU on the production screen).

3.3.3 The calibration is performed via the console and is accessed via a Test-Menu. Access to the test menu is password protected. After the instrument has been calibrated, the data must be loaded and stored in the MCU board memory. This is achieved by pressing the calibration data store button on the MCU board. If the button is not pressed then the calibration data is lost on exit of the test menu.

3.3.4 At power-on the instrument runs a check on the CPUs, memory and printer. The display prompts the user for acknowledgement before the printer is driven in three axes to the respective home positions. The display returns to the default start position, and when the final checks are made the instrument enters the normal operation mode (Figure 6).

3.3.5 The selection of a PLU determines the mode of operation. When selecting a PLU that contains a non-catchweighing mode of operation, the operator is required to make a positive acknowledgement that they are entering a non-catchweighing mode. Setting the PLU weighing mode is protected to management level.

4 PERIPHERAL DEVICES AND INTERFACES

4.1 Interfaces

The instrument may have the following interfaces:

–	I2PNET Interface	Up to 1 port RS-485 hardware configurations with I2PNET protocol
–	I2NET Interface	Up to 2 ports RS-485 hardware configurations with I2NET protocol
–	Ethernet	Up to 1 port 10BASE-T/100BASE-TX
–	RS-232C Interface	Up to 4 ports

4.2 Peripheral devices

The instrument may be connected to any peripheral device that has been issued with a test certificate by a Notified Body responsible for Annex B (MI-006) under Directive 2004/22/EC in any Member State and bears the CE marking of conformity to the relevant directives; or

A peripheral device without a test certificate may be connected under the following conditions:

- it bears the CE marking for conformity to the EMC Directive 89/336/EEC;
- it is not capable of transmitting any data or instruction into the weighing instrument, other than to release a printout, checking for correct data transmission or validation;
- it prints weighing results and other data as received from the weighing instrument without any modification or further processing; and
- it complies with the applicable requirements of Paragraph 8.1 of Annex I.

5 APPROVAL CONDITIONS

The certificate is issued subject to the following conditions:

5.1 Legends and inscriptions

5.1.1 The instrument bears the following legends (Figure 7):

'CE' marking
Supplementary metrology marking
Notified body identification number
Accuracy class
Min, Max and e
Serial number
Manufacturers mark or name
Certificate number
Operating temperature range

6 LOCATION OF SEALS AND VERIFICATION MARKS

6.1 The 'CE' marking, supplementary metrology marking and certificate number are located on the side of the operation unit. The CE mark shall be impossible to remove without damaging it. The data plate shall be impossible to remove without it being destroyed.

The markings and inscriptions shall fulfil the requirements of Paragraph 9 of Annex I of the Directive 2004/22/EC.

6.3 The tamper-evident rating plate is located on the left side of the operation unit (Figure 8).

6.4 Access to the calibration store button on the MCU board is protected by a tamper-evident label (Figure 9).

6.5 Components that may not be dismantled or adjusted by the user will be secured by either a wire and seal or tamper evident label and securing mark. The securing mark may be either:

- a mark of the manufacturer and/or manufacturer's representative, or
- an official mark of a verification officer.

7 ALTERNATIVES

There are currently no authorised alternatives.

8 ILLUSTRATIONS

Figure 1 Photograph of WPL-5000
Figure 2 Schematic of WPL-5000
Figure 3 Upper Printer Unit
Figure 4 Under Printer Unit
Figure 5 Display and Operation Unit
Figure 6 Normal Mode Display
Figure 7 Rating plates
Figure 8 Location of rating plate
Figure 9 Sealing of MCU board

9 CERTIFICATE HISTORY

ISSUE NO.	DATE	DESCRIPTION
UK/0126/0038	19 September 2008	Type examination certificate first issued.

Figure 1 Photograph of WPL-5000

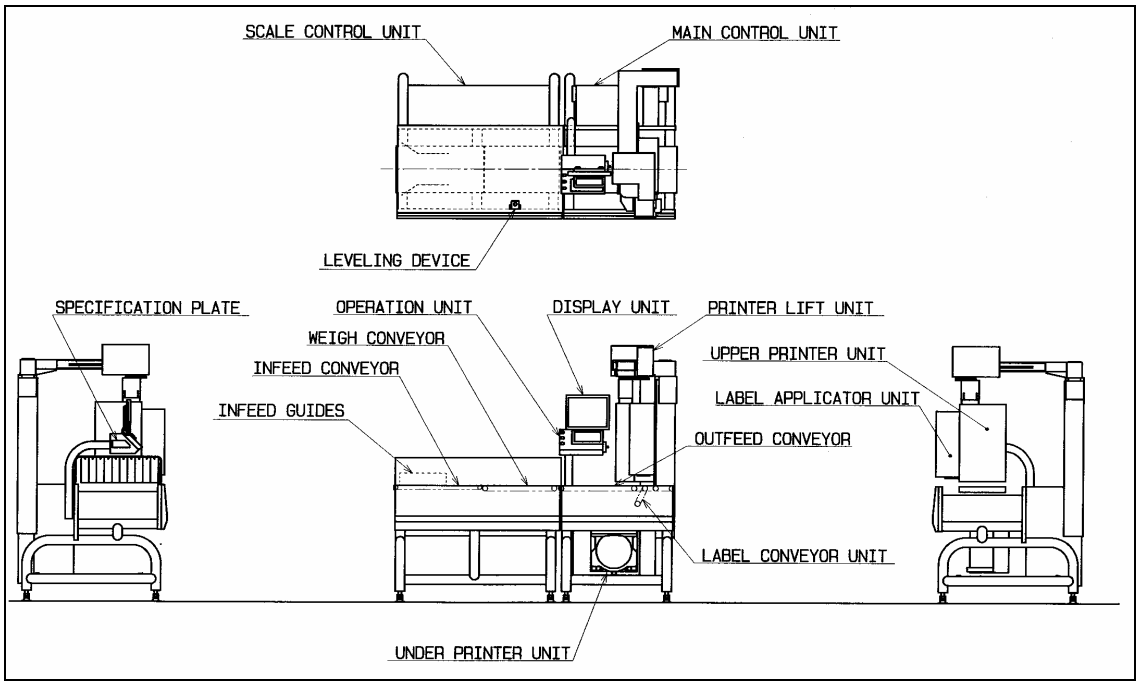

Figure 2 Schematic of WPL-5000

Figure 3 Upper Printer Unit

Figure 4 Under Printer Unit

Figure 5 Display and Operation Unit

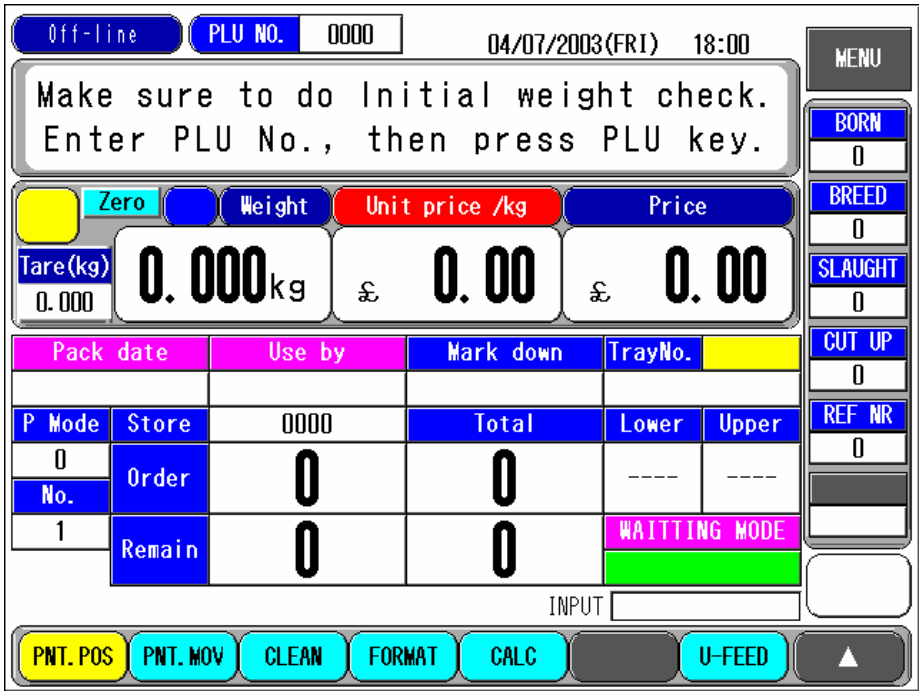

Figure 6 Normal Mode Display

ISHIDA MODEL WPL-5000 CERT. No.UK/0126/0038 CE M

Class Y(a) : Automatic Weigh-Price Labeler
Max 2kg Min 0,02kg e=d=0,001kg PT=-1,999kg
Max. Conveyor Speed 65m/min -5℃/+40℃
Max. Conveyor Speed 70m/min 0℃/+40℃
SERIAL NO.

Class XIII (1) : Automatic Catchweighing Instrument
Max 2kg Min 0,125kg e=d=0,001kg PT=-1,999kg
Max. Conveyor Speed 70m/min 0℃/+40℃

Supply pressure 0,45-0,55MPa 230V~50Hz:2W+PE 3,5A

MADE IN JAPAN ISHIDA CO., LTD.

ISHIDA MODEL WPL-5000 CERT. No.UK/0126/0038 CE M

Class Y(a) : Automatic Weigh-Price Labeler
Max 4kg Min 0,04kg e=d=0,002kg PT=-3,998kg
Max. Conveyor Speed 65m/min -5℃/+40℃
Max. Conveyor Speed 70m/min 0℃/+40℃
SERIAL NO.

Class XIII (1) : Automatic Catchweighing Instrument
Max 4kg Min 0,25kg e=d=0,002kg PT=-3,998kg
Max. Conveyor Speed 70m/min 0℃/+40℃

Supply pressure 0,45-0,55MPa 230V~50Hz:2W+PE 3,5A

MADE IN JAPAN ISHIDA CO., LTD.

Figure 7 Rating plates

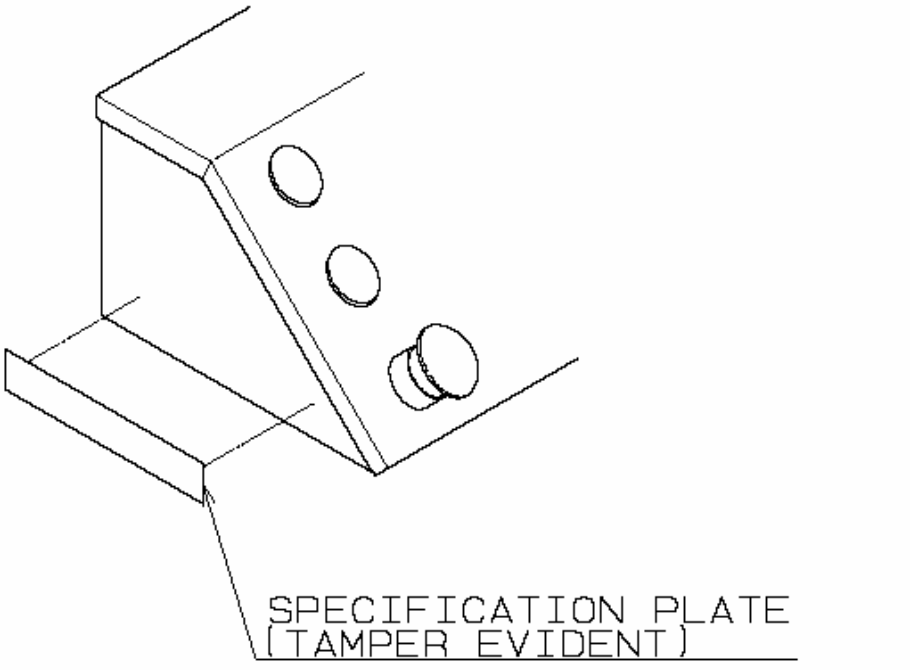

Figure 8 Location of rating plate

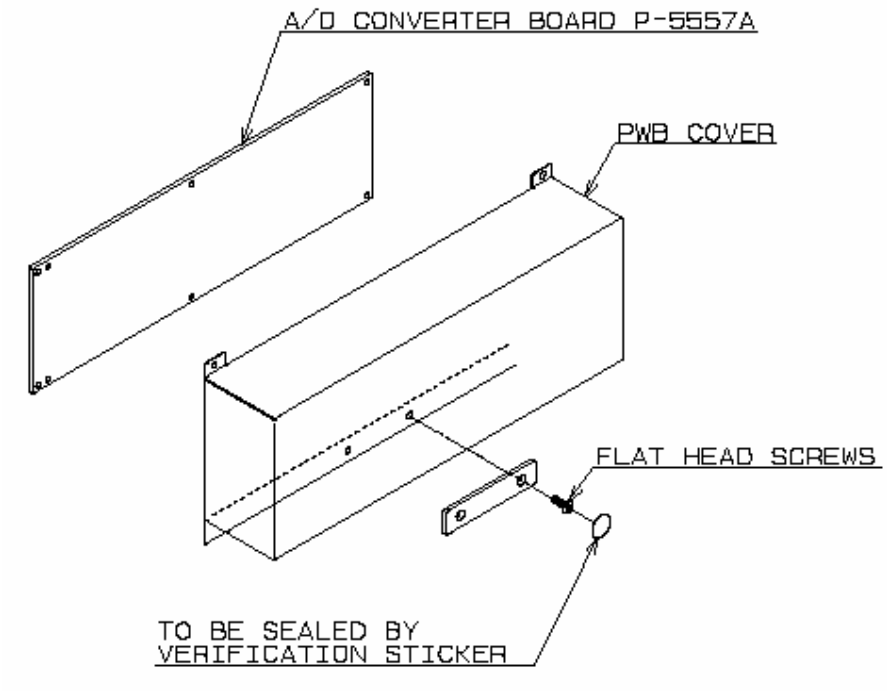

Figure 9 Sealing of MCU board

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